



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,709	03/16/2004	Kouzou Hirata	0951-0135PUS1	2095
2292	7590	12/21/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MULL, FRED H	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,709

Applicant(s)

HIRATA, KOUZOU

Examiner

Fred H. Mull

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because, in Fig. 4A, the wave should be propagating down the page toward the antenna system, but, as drawn, the wave is passing by the antenna system. The part of the figure to the left should be above the mobile body.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In lines 7-11, the claim states “switching ... based on ... the speed at which ... the mobile body moves relative to ... at least on propagating wave of at least one received signal”. However, the speed in the equation for the Doppler Effect for electromagnetic radiation is the relative speed between the transmitter and receiver, not the relative speed between the receiver and the propagating wave. See, for example, Otten, section “Optical Doppler effect” (p. 2-3).

3. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In lines 4-7, the claim states “such as will cause the connected receiving antenna or antennas to be substantially stationary relative to a least one source of transmission”. However, it is not the physical antenna that is stationary, it is the position of the then-selected antenna that is stationary.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The term "more or less" in claim 2 is a relative term which renders the claim indefinite. The term "more or less" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree (in other words, what distance variations would be considered encompassed by "more or less", and what distance variations would not be encompassed by "more or less"), and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-13 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kompfner.

In regard to claims 1, 5-8, and 15, Kompfner discloses:

a plurality of receiving antennas (21-23, Fig. 1);

an antenna switching means for switching each of the plurality of receiving antennas between a connected state and a disconnected state respectively (Fig. 5; col. 1, lines 63-66); and

a control means for controlling switching by the antenna switching means based on the direction in which the mobile body moves relative to the direction of propagation of at least one propagating wave of at least one received signal, and on the relative speed between the mobile body and the source of transmission (col. 1, lines 25-66, particularly line 53 with respect to direction and line 54 with respect to speed; col. 2, lines 63-68).

In regard to claim 2, Kompfner further discloses the plurality of receiving antennas is such that the receiving antennas are arranged so as to be respectively parallel and more or less evenly spaced apart (21-23, Fig. 1).

In regard to claim 3, Kompfner further discloses the antenna switching means supplies electrical power to the receiving antenna or antennas each of which is switched to a connected state by the control means (Fig. 5).

In regard to claim 4, Kompfner further discloses the antenna switching means simultaneously switches one or more of the receiving antennas to a connected state respectively in accordance with controlling by the control means (Fig. 5; col. 2, lines 63-68).

In regard to claims 9-13, Kompfner further discloses forming the various components in integrated circuit fashion (col. 4, lines 33-35).

In regard to claims 16-19, Kompfner further discloses electronic equipment provided with one or more antenna apparatuses (11).

6. Claims 1, 3-7, 15-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Gothard.

In regard to claim 1, 5-7, and 15, Gothard discloses:

a plurality of receiving antennas (215, Fig. 2; A-E, Fig. 6);

an antenna switching means for switching each of the plurality of receiving antennas between a connected state and a disconnected state respectively (615, Fig. 6); and

a control means for controlling switching by the antenna switching means based on the direction in which the mobile body moves relative to the direction of propagation of at least one propagating wave of at least one received signal, and on the relative speed between the mobile body and the source of transmission (§§29-30, where the change in direction of the received signal is a function of the speed of the receiver relative to the transmitter).

In regard to claim 3, Gothard further discloses the antenna switching means supplies electrical power to the receiving antenna or antennas each of which is switched to a connected state by the control means (§§33-37).

In regard to claim 4, Gothard further discloses the antenna switching means simultaneously switches one or more of the receiving antennas to a connected state respectively in accordance with controlling by the control means (§§33-37).

In regard to claims 16 and 19, Gothard further discloses electronic equipment provided with one or more antenna apparatuses (210, Fig. 2).

7. Claims 1, 3-7, and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Dorier.

In regard to claims 1, 3-7, and 15, Dorier discloses:

a plurality of receiving antennas (1-12, Fig. 1);

an antenna switching means for switching each of the plurality of receiving antennas between a connected state and a disconnected state respectively (C₁-C₆); and

a control means for controlling switching by the antenna switching means based on the direction in which the mobile body moves relative to the direction of propagation of at least one propagating wave of at least one received signal, and on the relative speed between the mobile body and the source of transmission (col. 1, lines 13-23, wherein the antennas chosen to be activated will depend on the speed the satellite (i.e. the faster it moves, the quicker it has to chose new antennas) and the region (i.e. direction from that region) which the satellite is receiving from).

In regard to claims 16 and 19, Dorier further discloses electronic equipment provided with one or more antenna apparatuses (satellite S).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3662

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kompfner in further view of Kimura.

Kimura discloses that digital audio/TV broadcasts are modulated with orthogonal frequency division multiplexing (title, abstract) and receiving such signals in a vehicle (Figs. 5 and 7). It would have been obvious to adapt the receiving system of Kompfner to receiver modern communications signals in order to continue to sell the system in modern times.

9. Claims 9-14 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gothard in further view of Olesen.

In regard to claims 9-13, Olesen teaches forming the various components of a circular antenna system in integrated circuit fashion (Fig. 1; ¶16). It would have been obvious to use this known integrated circuit circular antenna in Gothard in order to reduce the size of the antenna to make it more portable (e.g. than the antenna shown in Fig. 2).

In regard to claim 14, Olesen further discloses the signals received by the circular array are OFDM signals (¶13).

In regard to claims 17-18, Gothard further discloses electronic equipment provided with one or more antenna apparatuses (210, Fig. 2).

10. Claims 9-14 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorier in further view of Olesen.

In regard to claims 9-13, Olesen teaches forming the various components of a circular antenna system in integrated circuit fashion (Fig. 1; ¶16). It would have been obvious to use this known integrated circuit circular antenna in Dorier in order to reduce the size and weight of the satellite, and thus save launching cost.

In regard to claim 14, Olesen further discloses the signals received by the circular array are OFDM signals (¶13).

In regard to claims 17-18, Dorier further discloses electronic equipment provided with one or more antenna apparatuses (satellite S).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on M-F 9:00 - 5:00.

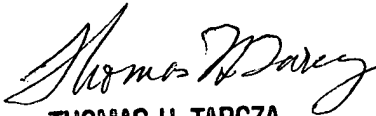
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull
Examiner
Art Unit 3662

fhm


THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600